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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,898	12/13/2005	David W Morris	PP23367.0003/20366-020US1	1969

55255 7590 02/28/2008
Novartis Vaccines and Diagnostics, Inc.
Corporate Intellectual Property
P.O. BOX 8097
EMERYVILLE, CA 94662-8097

EXAMINER

DAVIS, MINH TAM B

ART UNIT

PAPER NUMBER

1642

MAIL DATE

DELIVERY MODE

02/28/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/540,898

Applicant(s)

MORRIS ET AL.

Examiner

MINH-TAM DAVIS

Art Unit

1642

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-74 is/are pending in the application.
- 4a) Of the above claim(s) 27,29 and 32-38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-26,28,30,31 and 39-74 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claims 1-74 are pending.

Claims 27, 29, 32 and its dependent claims 33-38 have been withdrawn from consideration. The claims are drawn to a polynucleotide or a method for screening cancer, by detecting a polynucleotide. However, the cited sequences are polypeptides, not polynucleotides.

Accordingly, claims 1-26, 28, 30-31, 39-74 for subjected to the following restriction requirement.

Election/Restrictions

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group A, claim(s) 1-15, 28, 30, drawn to the nucleic acid SEQ ID NO:607.

Group B, claim(s) 1-15, 28, 30, drawn to a nucleic acid as recited in claim 1. Each nucleic acid constitutes a single, distinct invention.

Group C, claims 16-20, 31, drawn to a protein as recited in claim 16. Each protein constitutes a single, distinct invention.

Group D, claims 21-26, drawn to an antibody to a protein as recited in claim 16. An antibody to each protein constitutes a single, distinct invention.

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Group E, claims 39-40, 61-68, drawn to a method for detecting cancer, by detecting a protein as cited in claim 39, or a combination thereof. A method for detecting each cancer, as recited on pages 7-9 in the specification, using each protein, or each combination thereof constitutes as single, distinct invention.

Group F, claim 40, drawn to a method for detecting cancer, by detecting a serum antibody to a protein as cited in claim 39. A method for detecting each cancer, as recited on pages 7-9 in the specification, using an antibody to each protein constitutes as single, distinct invention.

Group G, claims 42-43, 45, drawn to a method for screening an inhibitor of the transcription of the encoding nucleic acid as recited in claim 42, which inhibitor is a modulator of the sequences cited in claim 45. A method using each modulator of the sequences cited in claim 45, for testing each nucleic acid recited in claim 42 constitutes a single, distinct invention.

Group H, claims 42-44, 46, drawn to a method for screening a modulator of a protein, encoded by a nucleic acid as recited in claim 42, which modulator is an antagonist of a G-protein coupled receptor protein, and modulates of the activity of the sequences cited in claim 46. A method using each modulator of the sequences cited in claim 46, for testing each protein recited in claim 42 constitutes a single, distinct invention.

Group I, claims 42-44, 47, drawn to a method for screening a modulator of a protein, encoded by a nucleic acid as recited in claim 42, which modulator is an antagonist of a calcium binding protein, and modulates of the activity of the sequences

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cited in claim 47. A method using each modulator of the sequences cited in claim 47, for testing each protein recited in claim 42 constitutes a single, distinct invention.

Group J, claims 42-44, 48, drawn to a method for screening a modulator of a protein, encoded by a nucleic acid as recited in claim 42, which modulator is an antagonist of a ubiquitin cycle protein, and modulates of the activity of the sequences cited in claim 48. A method using each modulator of the sequences cited in claim 48, for testing each protein recited in claim 42 constitutes a single, distinct invention.

Group K, claim 49, 56-63, 66-74, drawn to a method for drawn to a method for detecting cancer, by detecting a nucleic acid as cited in claim 49, or a combination thereof. A method for detecting each cancer, as recited on pages 7-9 in the specification, using each nucleic acid, or each combination thereof constitutes as single, distinct invention.

Group L, claims 50, 52, drawn to a method for treating cancer, using an inhibitor of the transcription of the encoding nucleic acid as recited in claim 50, which inhibitor is a modulator of the sequences cited in claim 52. A method for treating each cancer as recited on pages 7-9 of the specification, using each modulator of the sequences cited in claim 52, which inhibits the transcription of each nucleic acid recited in claim 50 constitutes a single, distinct invention.

Group M, claims 50-51, 53, drawn to a method for treating cancer, using an inhibitor of a protein cited in claim 50, which inhibitor is an antagonist of a G-protein coupled receptor protein, and modulates of the activity of the sequences cited in claim 53. A method of treating each cancer as recited on pages 7-9 of the specification, using each

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modulator of the sequences cited in claim 53, which inhibits each protein recited in claim 50 constitutes a single, distinct invention.

Group N, claims 50-51, 54, drawn to a method for treating cancer, using an inhibitor of a protein cited in claim 50, which inhibitor is an antagonist of a calcium binding protein, and modulates of the activity of the sequences cited in claim 54. A method for treating each cancer as recited on pages 7-9 of the specification, using each modulator of the sequences cited in claim 54, which inhibits each protein recited in claim 50 constitutes a single, distinct invention.

Group O, claims 50-51, 55, drawn to a method for treating cancer, using an inhibitor of a protein cited in claim 50, which inhibitor is an antagonist of a ubiquitin cycle protein, and modulates of the activity of the sequences cited in claim 55. A method for treating each cancer as recited on pages 7-9 of the specification, using each modulator of the sequences cited in claim 55, which inhibits each protein recited in claim 50 constitutes a single, distinct invention.

The inventions are distinct, each from the other because of the following reasons:

According to PCT Rule 13.2, unity of invention exists only when the shared same or corresponding technical feature is a contribution over the prior art. The inventions listed as groups A-O do not relate to a single general inventive concept because they lack the same or corresponding special technical feature. A nucleic acid molecule comprising at least 10 nucleotides of SEQ ID NO:607 of group A is shown to be the same as the nucleic acid molecule SEQ ID NO:19, taught by Tang et al (US 6,743,619), which is 99.5% similar to SEQ ID NO:607 (MPSRCH search result, 2008, us-10-540-898-607.mi,

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result 1, pages 1-5). Thus the claimed invention lacks novelty and does not make a contribution over the prior art.

MPSRCH search result, 2008, us-10-540-898-607.mi, result 1, pages 1-5

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RESULT 1
US-09-774-528-19
; Sequence 19, Application US/09774528
; Patent No. 6743619
; GENERAL INFORMATION:
; APPLICANT: Tang, Y. Tom
; APPLICANT: Zhou, Ping
; APPLICANT: Goodrich, Ryle
; APPLICANT: Liu, Chenghua
; APPLICANT: Asundi, Vinod
; APPLICANT: Ren, Felyan
; APPLICANT: Zhang, Jie
; APPLICANT: Zhao, Qing A.
; APPLICANT: Yang, Yonghong
; APPLICANT: Xue, Aidong J.
; APPLICANT: Wehrman, Tom
; APPLICANT: Wang, Jian-Rui
; APPLICANT: Wang, Dunrui
; APPLICANT: Drmanac, Radoje T.
; TITLE OF INVENTION: No. 6743619el Nucleic Acids and
; TITLE OF INVENTION: Polypeptides
; FILE REFERENCE: 802
; CURRENT APPLICATION NUMBER: US/09/774,528
; CURRENT FILING DATE: 2001-01-30
; NUMBER OF SEQ ID NOS: 441
; SOFTWARE: pt_FL_genes Version 2.0
; SEQ ID NO 19
; LENGTH: 4808
; TYPE: DNA
; ORGANISM: Homo sapiens
; FEATURE:
; NAME/KEY: CDS
; LOCATION: (818)..(2359)
US-09-774-528-19

Query Match          99.5%; Score 3821; DB 3; Length 4808;
Best Local Similarity 99.8%; Pred. No. 0;
Matches 3835; Conservative 0; Mismatches 5; Indels 1; Gaps 1;

Qy      1  TGTTCACACTGATTCTCGTGACTTTAAGGACCAGGGATTGAAGAGGTTATAGCTCTTC 60
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db      173 TGTTCACACTGATTCTCGTGACTTTAAGGACCAGGGATTGAAGAGGTTATAGCTCTTC 232

Qy      61  CCAGGAAGGAGGAGGAAGTTTCTGGAAGAGAAGGGAAGACGGCAGACGCTGCGCTGGGACC 120
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db      233 CCAGGAAGGAGGAGGAAGTTTCTGGAAGAGAAGGGAAGACGGCAGACGCTGCGCTGGGACC 292

Qy      121 AGCAGAGCCTGAGGAGCTGTGGGAAGCTGACAGAGCCCGAGCCAAAGGAGCGGGAAGGAGC 180
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db      293 AGCAGAGCCTGAGGAGCTGTGGGAAGCTGACAGAGCCCGAGCCAAAGGAGCGGGAAGGAGC 352

Qy      181 CGCAGCCCCAGGCTGGCACTGTGTTCTGAAAGATTGAAGCTCAAGCTGCTTTTACGGAA 240
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db      353 CGCAGCCCCAGGCTGGCACTGTGTTCTGAAAGATTGAAGCTCAAGCTGCTTTTACGGAA 412

Qy      241 GAGGGGGCACTTCAGAGGGCACCCAGAATTTGGTTGAGCTCTCTACTCTGGATGCCCC 300
      | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db      413 GAGGGGGCACTTCAGAGGGCACCCAGAATTTGGTTGAGCTCTCTACTCTGGATGCCCC 472

Qy      301 CTGCTCTGAGGAGCCTGCCACTGAGAAACCAAGAAGATAAGAGGACAGATACATTTTCTT 360

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Db 473 CTGCTCTGAGGAGCCTGCCACTGAGAAACAAAGAGATAAGAGGACAGATACCTTTTCTT 532
|||||
Qy 361 CAAGCACAGAGCTGGTGGGTGGAGTCAGGCATCTGCACCCCTAGTGGCTGTCTGGTGAG 420
|||||
Db 533 CAAGCACAGAGCTGGTGGGTGGAGTCAGGCATCTGCACCCCTAGTGGCTGTCTGGTGAG 592
|||||
Qy 421 GAATTTCTTGTTTCTTCCAGCTTGGGGCTTCAGTGCTTGATGGGGCTGCGCTGGTGG 480
|||||
Db 593 GAATTTCTTGTTTCTTCCAGCTTGGGGCTTCAGTGCTTGATGGGGCTGCGCTGGTGG 652
|||||
Qy 481 ATTCAGTTTTTTCAGTGCCTGGTAGGAGTGGAGAGCGCTGGGAAGAGGTCTCGCGCGGCC 540
|||||
Db 653 ATTCAGTTTTTTCAGTGCCTGGTAGGAGTGGAGAGCGCTGGGAAGAGGTCTCGCGCGGCC 712
|||||
Qy 541 AAGCCTGGGTTCACCCAAAGACTAAGTCTTTCCCAAGTTAGAGAAGAAGAGAGAAAGCA 600
|||||
Db 713 AAGCCTGGGTTCACCCAAAGACTAAGTCTTTCCCAAGTTAGAGAAGAAGAGAGAAAGCA 772
|||||
Qy 601 AAAAGAAGAGAGGAAAGTTCTCCCTTCCCTCCTCGTGCGCTGTCTGCTCTAAGCCA 660
|||||
Db 773 AAAAGAAGAGAGGAAAGTTCTCCCTTCCCTCCTCGTGCGCTGTCTGCTCTAAGCCA 832
|||||
Qy 661 GAGCCGAAGGACGTCACCAACTGAACGGGAGTGGCCCTTCTGCCCTCTCCCTGCTCTCA 720
|||||
Db 833 GAGCCGAAGGACGTCACCAACTGAACGGGAGTGGCCCTTCTGCCCTCTCCCTGCTCTCA 892
|||||
Qy 721 GATGGCCCAAGGAGAGAGCCCTTGGCTGGGACCTCAGAGTTCCTGGGGCCTGATGGGGCT 780
|||||
Db 893 GATGGCCCAAGGAGAGAGCCCTTGGCTGGGACCTCAGAGTTCCTGGGGCCTGATGGGGCT 952
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Qy 781 GGGGTAGAGTGGTGTATTGAGTCTCGGGCCAACGCCAAGGGGTTTCGGGAGGAGGACGC 840
|||||
Db 953 GGGGTAGAGTGGTGTATTGAGTCTCGGGCCAACGCCAAGGGGTTTCGGGAGGAGGACGC 1012
|||||
Qy 841 CTGCTGGAGAACGGGAGCCAGAGCAACGAAAGTGACGACGTCAGCACAGACCGTGGCCCT 900
|||||
Db 1013 CTGCTGGAGAACGGGAGCCAGAGCAACGAAAGTGACGACGTCAGCACAGACCGTGGCCCT 1072
|||||
Qy 901 GCGCCACCTTCCCGGCTCAAGGAGACCTCCTTTTCCATCGGGCTGCAAGTACTGTTTCCA 960
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Db 1073 GCGCCACCTTCCCGGCTCAAGGAGACCTCCTTTTCCATCGGGCTGCAAGTACTGTTTCCA 1132
|||||
Qy 961 TTCTCTCTGGCAGGCTTTGGGACCGTGGCTGCTGGCATGGTGTGGACATCGTGACGAC 1020
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Db 1133 TTCTCTCTGGCAGGCTTTGGGACCGTGGCTGCTGGCATGGTGTGGACATCGTGACGAC 1192
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Qy 1021 TGGGAAGTCTTCCAGAAGGTGACAGAGTCTTCATCCTAGTGCCTGCGCTGCTGGGGCTC 1080
|||||
Db 1193 TGGGAAGTCTTCCAGAAGGTGACAGAGTCTTCATCCTAGTGCCTGCGCTGCTGGGGCTC 1252
|||||
Qy 1081 AAAGGGAACCTGGAAATGACCCCTGGCATCAAGGCTTTCACATGCAGCCAAACATTGGACAC 1140
|||||
Db 1253 AAAGGGAACCTGGAAATGACCCCTGGCATCAAGGCTTTCACATGCAGCCAAACATTGGACAC 1312
|||||
Qy 1141 ATGGACACACCCAAAGGAGCTCTGGCGGATGATCACTGGGAACATGGCCCTCATCCAGGTG 1200
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Db 1313 ATGGACACACCCAAAGGAGCTCTGGCGGATGATCACTGGGAACATGGCCCTCATCCAGGTG 1372
|||||
Qy 1201 CAGGCCACGSGTGGTGGGCTTCTGGGCTCCATCGCAGCCGCTGCTCTTTGGGCTGATCCCT 1260
|||||
Db 1373 CAGGCCACGSGTGGTGGGCTTCTGGGCTCCATCGCAGCCGCTGCTCTTTGGGCTGATCCCT 1432
|||||
Qy 1261 GATGGCCACTTCAGTATTCCGACGCGCTTCTGCTCTGTGCTAGCAGCGTGGCCACAGCC 1320
|||||
Db 1433 GATGGCCACTTCAGTATTCCGACGCGCTTCTGCTCTGTGCTAGCAGCGTGGCCACAGCC 1492
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Qy 1321 TTTACTGCTCCCTGGTACTGGGTATGATCATGATTGGAGTATCATTTGGCTCTCGCAAG 1380

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Db 1493 TTGATTGGCTCCCTGGTACTGGGTATGATCATGATTGGAGTCATCATTTGGCTCTCCGCAAG 1552

Qy 1381 ATTTGGGATCAACCCAGACAACCTGGGCCACACCATTTGCTGCCAGCCTGGGGCACTCATC 1440

Db 1553 ATTTGGGATCAACCCAGACAACCTGGGCCACACCATTTGCTGCCAGCCTGGGGCACTCATC 1612

Qy 1441 ACCTTGGCGCTGCTCTCAGGCATCAGCTGGGGACTCTACCTGGAACCTGAATCACTGGCGA 1500

Db 1613 ACCTTGGCGCTGCTCTCAGGCATCAGCTGGGGACTCTACCTGGAACCTGAATCACTGGCGA 1672

Qy 1501 TACATCTACCCACTGGTGTGTGCTTTCTTTGTGGCCCTGCTGCCTGTCTGGTGGTGTG 1560

Db 1673 TACATCTACCCACTGGTGTGTGCTTTCTTTGTGGCCCTGCTGCCTGTCTGGTGGTGTG 1732

Qy 1561 GCCCGACGAAGTCCAGCCACAAGGGAGGTGTGTACTCGGGCTGGGAGCCTGTTATCATTT 1620

Db 1733 GCCCGACGAAGTCCAGCCACAAGGGAGGTGTGTACTCGGGCTGGGAGCCTGTTATCATTT 1792

Qy 1621 GCCATGSCCATCAGCAGTGTGGGAGGCCCTCATCTTGGACAAGACTGTCTCAGACCCCAAC 1680

Db 1793 GCCATGSCCATCAGCAGTGTGGGAGGCCCTCATCTTGGACAAGACTGTCTCAGACCCCAAC 1852

Qy 1681 TTTGCTGGGATGGCTGTCTTTCAGCCCTGTGATTAATGGTGTGTGGGGCAATCTGGTGGCA 1740

Db 1853 TTTGCTGGGATGGCTGTCTTTCAGCCCTGTGATTAATGGTGTGTGGGGCAATCTGGTGGCA 1912

Qy 1741 GTGCGAGCCAGCCGCATCTCCACCTTCCTGCACATGAATGGAATGCCCGAGAGAACTCT 1800

Db 1913 GTGCGAGCCAGCCGCATCTCCACCTTCCTGCACATGAATGGAATGCCCGAGAGAACTCT 1972

Qy 1801 GAGCAAGCTCCTCGCCGCTGTCCAGTCTCTTACCACTTCTTCAGCCCTGATGTGAAT 1860

Db 1973 GAGCAAGCTCCTCGCCGCTGTCCAGTCTCTTACCACTTCTTCAGCCCTGATGTGAAT 2032

Qy 1861 TCTCGCTCAGCCCGGGTCTCTTCTCTCTGTGGTCCAGGACACCTGGTGTCTCTCTAC 1920

Db 2033 TCTCGCTCAGCCCGGGTCTCTTCTCTCTGTGGTCCAGGACACCTGGTGTCTCTCTAC 2092

Qy 1921 ACCATCAGCTGTATGCAAGGGGGGCACACACCCCTCACACTCACTTCATCATCTTCTAT 1980

Db 2093 ACCATCAGCTGTATGCAAGGGGGGCACACACCCCTCACACTCACTTCATCATCTTCTAT 2152

Qy 1981 ATGACAGCTGCATGCTCCAGTGTCTGATTTCTCTGTACATCGCAGACTGGATGGTGAC 2040

Db 2153 ATGACAGCTGCATGCTCCAGTGTCTGATTTCTCTGTACATCGCAGACTGGATGGTGAC 2212

Qy 2041 TGGATGTGGGGCCGGGGCTGGACCCGACAACCTTCTCCATCCCATACTTGAATGCTCTG 2100

Db 2213 TGGATGTGGGGCCGGGGCTGGACCCGACAACCTTCTCCATCCCATACTTGAATGCTCTG 2272

Qy 2101 GGGGACCTGCTTGGCACTGGGGCTCTAGCACTCAGCTTCCATGTTCTCTGGCTCATAGG 2160

Db 2273 GGGGACCTGCTTGGCACTGGGGCTCTAGCACTCAGCTTCCATGTTCTCTGGCTCATAGG 2332

Qy 2161 GACCGAGACACGGATGTGGGGACTAGCTTGGTCACTGAACATTTTCCCACTGCCCTCTG 2220

Db 2333 GACCGAGACACGGATGTGGGGACTAGCTTGGTCACTGAACATTTTCCCACTGCCCTCTG 2392

Qy 2221 ACTTTCTATTGAAATTTTCTTTTGTTCCTCTGTCCCTCTCCACCCGACACTCCAC 2280

Db 2393 ACTTTCTATTGAAATTTTCTTTTGTTCCTCTGTCCCTCTCCACCCGACACTCCAC 2452

Qy 2281 TCTTTCTAGGACTTCACTTTTGATACCAAACTCTATTATTTCAATGGGAATTTTATAC 2340

Db 2453 TCTTTCTAGGACTTCACTTTTGATACCAAACTCTATTATTTCAATGGGAATTTTATAC 2512

Qy 2341 ATTGAGCCAAAGTTTGTATAGCAAGAAATTTGGGAAACACAGATGGCTTGAGATAAGCAGTA 2400

Db 2513 ATTGAGCCAAAGTTTGTATAGCAAGAAATTTGGGAAACACAGATGGCTTGAGATAAGCAGTA 2572

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Qy 2401 CAAGTAGGTTTTTGAGACAATCACCAGTGCAGTTTCATGGTGGGTGGCTCCAGGTGATG 2460
 Db 2573 CAAGTAGGTTTTTGAGACAATCACCAGTGCAGTTTCATGGTGGGTGGCTCCAGGTGATG 2632

Qy 2461 TGGACTGGAGCAGGGGAGTTTGTCTGGAATCTGGGGACATGGGGTTTGGCTTTAGCAAC 2520
 Db 2633 TGGACTGGAGCAGGGGAGTTTGTCTGGAATCTGGGGACATGGGGTTTGGCTTTAGCAAC 2692

Qy 2521 CTGTCTTGGCCCTAATGAGAAACCCCTTTGTAAGTGGGCTCTGGATTTTGGTTTTGTTTT 2580
 Db 2693 CTGTCTTGGCCCTAATGAGAAACCCCTTTGTAAGTGGGCTCTGGATTTTGGTTTTGTTTT 2752

Qy 2581 CTTTTATCTGTTTTGTTTTATTTTTGGTTTTGGTTGAACAGAGGGACAGAAGAATAAGT 2640
 Db 2753 CTTTTATCTGTTTTGTTTTATTTTTGGTTTTGGTTGAACAGAGGGACAGAAGAATAAGT 2812

Qy 2641 AACACTCCCCAACACAGACATACTTTTGTAGAAGTGGACCAACTTCAAAGCTCTGGACAG 2700
 Db 2813 AACACTCCCCAACACAGACATACTTTTGTAGAAGTGGACCAACTTCAAAGCTCTGGACAG 2872

Qy 2701 GAGACACCTGCTCCAGGCCCTGTGATCCCACTTCGTCTCTCTGGCCCTCTGGACATTAAG 2760
 Db 2873 GAGACACCTGCTCCAGGCCCTGTGATCCCACTTCGTCTCTCTGGCCCTCTGGACATTAAG 2932

Qy 2761 CGTTCGCCACTCGCAGAAAGAGTAAGGTGGACTGACTTTTCAATTTGTGCACATGCCTCTT 2820
 Db 2933 CGTTCGCCACTCGCAGAAAGAGTAAGGTGGACTGACTTTTCAATTTGTGCACATGCCTCTT 2992

Qy 2821 GTTCAATGGCCTGTCAACATCAACAACCCCTCCCTCTGATCATTTCCAGTTGATTGTCA 2880
 Db 2993 GTTCAATGGCCTGTCAACATCAACAACCCCTCCCTCTGATCATTTCCAGTTGATTGTCA 3052

Qy 2881 TATCCAGGAAAAATGGAACAGTGCACCTTCTCCCTGTTGACCCATGTGCCACCTATTGG 2940
 Db 3053 TATCCAGGAAAAATGGAACAGTGCACCTTCTCCCTGTTGACCCATGTGCCACCTATTGG 3112

Qy 2941 TTCCCCAAAAATCCACATTTCTCCCTGGGCCCCAGATGACITTTGTCTCCCTGGGCCCCAGATT 3000
 Db 3113 TTCCCCAAAAATCCACATTTCTCCCTGGGCCCCAGATGACITTTGTCTCCCTGGGCCCCAGATT 3172

Qy 3001 TTTGTCTCTCTTCAACCTTCACTCAAAATTGTCTCTAAGCACTACCTTCGCCAGAGCTTG 3060
 Db 3173 TTTGTCTCTCTTCAACCTTCACTCAAAATTGTCTCTAAGCACTACCTTCGCCAGAGCTTG 3232

Qy 3061 CCAGGTTGGGTTTTGAGATTAGGGTCAGGTCATGGGTATGTGGAGAATGGTTTGGAGGTT 3120
 Db 3233 CCAGGTTGGGTTTTGAGATTAGGGTCAGGTCATGGGTATGTGGAGAATGGTTTGGAGGTT 3292

Qy 3121 GAGGACAACCAAGGTGTCTCATTTGCTGCCATTTCTCCTGAGGACATAATCACTTGGTCA 3180
 Db 3293 GAGGACAACCAAGGTGTCTCATTTGCTGCCATTTCTCCTGAGGACATAATCACTTGGTCA 3352

Qy 3181 CCTTGGACCTGTCACTTCTCAAAATTACTGTTCTGTGATGCCATAGAGGTCAGTTTTC 3240
 Db 3353 CCTTGGACCTGTCACTTCTCAAAATTACTGTTCTGTGATGCCATAGAGGTCAGTTTTC 3412

Qy 3241 CTCCTTCTTGGCTCTTACCCACAACATTCACCAATCATTTATTCGTTCAATTAGCAAA 3300
 Db 3413 CTCCTTCTTGGCTCTTACCCACAACATTCACCAATCATTTATTCGTTCAATTAGCAAA 3472

Qy 3301 ATGCAGCCTCCGCAAGATGAGCTCTCCTGCAGACAAGCATGGTCTGAAACATTCCTTGG 3360
 Db 3473 ATGCAGCCTCCGCAAGATGAGCTCTCCTGCAGACAAGCATGGTCTGAAACATTCCTTGG 3532

Qy 3361 CAATAT-TTATTGAGTGCCCTACTATGTGTTAGGTACTGTGCCAGGCATGATAAGCCAGT 3419
 Db 3533 CAATATCATATTGAGTGCCCTACTATGTGTTAGGTACTGTGCCAGGAACATGATAAGCCAGT 3592

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Qy      3420  GGTAAGGGAAACACAGCTCTAACCTCAOCTCATTTCTCCAGGTTACAAAAGGCCATGTGCC 3479
          |||
Db      3593  GGTAAGGGAAACACAGCTCTAACCTCAOCTCATTTCTCCAGGTTACAAAAGGCCATGTGCC 3652

Qy      3480  CTTTGAATCTGGCAGAGAAAAGTTTCCTCGTTCTAAGTATTTCATCTACTTCAAGCCAGA 3539
          |||
Db      3653  CTTTGAATCTGGCAGAGAAAAGTTTCCTCGTTCTAAGTATTTCATCTACTTCAAGCCAGA 3712

Qy      3540  TTCCTCTGCTCTTTCTCCTTTCCAGACCCCTACTCTGTGCAGTGTGAACACAGCTAGA 3599
          |||
Db      3713  TTCCTCTGCTCTTTCTCCTTTCCAGACCCCTACTCTGTGCAGTGTGAACACAGCTAGA 3772

Qy      3600  GCCACGCCCCATTGCTCAACCAAGTATTATTTCCTTAAACGACCCCTTCCTCATATTCCC 3659
          |||
Db      3773  GCCACGCCCCATTGCTCAACCAAGTATTATTTCCTTAAACGACCCCTTCCTCATATTCCC 3832

Qy      3660  TTCCTTCCACCTCTCCTTACCAAGCACCCAAAAGAGGATTTAGAACTAGCAGGGTGGACA 3719
          |||
Db      3833  TTCCTTCCACCTCTCCTTACCAAGCACCCAAAAGAGGATTTAGAACTAGCAGGGTGGACA 3892

Qy      3720  TCATCTGGTTGTTTCTACTTTTCTCTGCTAGCACAAAATTGGGAGAAAATCGGAGGCTC 3779
          |||
Db      3893  TCATCTGGTTGTTTCTACTTTTCTCTGCTAGCACAAAATTGGGAGAAAATCGGAGGCTC 3952

Qy      3780  CATCCGAGTCACACGTGTACAGATCTGGGGATTGGATGTAGGCTTTTCTAACTTCTC 3839
          |||
Db      3953  CATCCGAGTCACACGTGTACAGATCTGGGGATTGGATGTAGGCTTTTCTAACTTCTC 4012

Qy      3840  T 3840
          |
Db      4013  T 4013

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Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement may be traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MINH-TAM DAVIS whose telephone number is 571-272-0830. The examiner can normally be reached on 9:00 AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, LARRY HELMS can be reached on 571-272-0832. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MINH TAM DAVIS
February 26, 2008

/Larry R. Helms/

Supervisory Patent Examiner, Art Unit 1643

